

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

REC'D 21 JUL 2005

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WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:
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Date of mailing
(day/month/year) 19 JUL 2005

Applicant's or agent's file reference

FOR FURTHER ACTION
See paragraph 2 below

International application No.

International filing date (day/month/year)

Priority date (day/month/year)

PCT/US05/08311

11 March 2005 (11.03.2005)

11 March 2004 (11.03.2004)

International Patent Classification (IPC) or both national classification and IPC

IPC(7): G06K 09/00; A61B 6/00, 5/05, 5/103, 5/117 and US Cl.: 382/128-134; 600/410-411, 594; 378/4, all

Applicant

UNIVERSITY OF CINCINNATI

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US05/08311

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

☐ a sequence listing

☐ table(s) related to the sequence listing

b. format of material

☐ in written format

☐ in computer readable form

c. time of filing/furnishing

☐ contained in international application as filed.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US05/08311

Box No. V Reasoned statement under Rule 43 bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>1-12</u>	<u>YES</u>
	Claims <u>NONE</u>	<u>NO</u>
Inventive step (IS)	Claims <u>NONE</u>	<u>YES</u>
	Claims <u>1-12</u>	<u>NO</u>
Industrial applicability (IA)	Claims <u>1-12</u>	<u>YES</u>
	Claims <u>NONE</u>	<u>NO</u>

2. Citations and explanations:

Claims 1-12 lacks an inventive step under PCT Article 33(3) as being obvious over Steiger et al. (US 6,002,959).

With regard to claim 1 Lindquist discloses an apparatus for identifying and labeling spinal structures in a medical diagnostic image of a patient, comprising: a memory configured to receive the medical diagnostic images; a program stored in the memory and operatively configured to detect a plurality of voxels in the image as candidate spinal structures, to apply at least one spinal structure constraint to identify a subset of the plurality of voxels as a series of spinal structures, and to label the series of spinal structures as a selected specified one of a cervical, thoracic, lumbar vertebral structures; and a processor in communication with the memory to perform the program (see the system in Figure 15 and its respective portion in the specification. Figure 16 shows the details of the spinal structures detected from the image. Bottom of column 11 to columns 12-13 shows the process of analyzing and labeling structure of a spine). It would have been obvious to the person of an ordinary skill in the art to analyze a subset of voxels in order obtain and label the series of spinal structures.

Claim 12 lacks an inventive step under PCT Article 33(3) as being obvious over Alder et al. (US 6,023,495).

With regard to claim 12 Alder discloses a method for performing a medical diagnostic imaging scan of a patient (Figures 1-2), comprising placing a longitudinally unique opaque spinal coil on external to a spine of a patient; performing a scout scan; identifying and labeling on diagnostic scans each vertebral body of the spin; autopscribing a portion proximate to a vertebral body for detailed scan; identifying a unique longitudinal position of the spinal coil proximate to a surgical site contained within the autopscribed portion; and inserting a therapeutic instrument localized by the spinal coil to the surgical site (col. 5 lines 26-62).